

Remarks and Arguments

Claims 1-9 and 11-28 have been presented for examination. Claims 1, 3-9, 14, 17, 18 and 20 have been amended. Claims 24-28 have been canceled.

Claims 24-28 have been withdrawn from consideration for being directed to a non-elected invention. Accordingly, claims 24-28 have been canceled.

Applicant is submitting a certified copy of the priority application DE 03001688.5 by separate cover as required by 35 U.S.C. §119(b).

Claim 18 has been objected to for incorrect grammar - omitting the word "for" in line 6. In response claim 18 has been amended to insert the word "for" in an appropriate location.

Claims 9, 14 and 20 have been rejected under 35 U.S.C. §112, second paragraph, as indefinite. In particular, claims 9 and 20 recite that a recited screw head is the head part of the temporary attachment. The examiner claims that the head part is not clearly defined as separate from the attachment or as a part of the attachment and, thus, it is not clear how the head part can be the same as the screw head. In response, Applicant disagrees with the examiner that the head part is not clearly defined as part of the attachment. For example, claim 1 recites, in lines 11-16, a "...temporary attachment having a base part; a head part; and a molded piece made of a biocompatible and elastic material located between the base part and the head part..." Thus, claim 1 clearly recites that the temporary attachment has three parts: a head part, a molded piece and a base part. Claims 9 and 20 have been amended to clarify the relationship of the parts. Claim 9 now recites, in lines 2-4, "...the head part of the temporary attachment is omitted so that the screw head bears directly against the molded piece and generates the axial pressure to compress the molded piece." Thus, the relationship of the head part and the screw head is believed to be clear.

Similarly, claim 20 recites, in lines 2-3, "...the screw head serves as the head part of the temporary attachment." Claim 14 has also been amended in a similar fashion. It is believed that these amendments clarify claims 9, 14 and 20 and particularly point out the relationship of the parts as required by 35 U.S.C. §112, second paragraph.

Claims 1-8, 11 and 14-19 and 21 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,026,280 (Dürr, previously cited.) The implant structures disclosed in the cited Dürr reference relate to the complete implant including the denture superstructure whereas the inventive implant relates to a pre-stage of the complete implant before a superstructure is attached to the implant body. The prior art Dürr implant also provides cushioning and damping of forces effective in axial direction while such forces do not exist in the pre-stage of the implant to which the invention relates.

In contrast, the claimed attachment is recited as a temporary attachment which is removed from the implant before the superstructure is attached to the implant. As such, the molded piece, as claimed, does not have a cushioning or damping effect against vertical forces in the axial direction of the implant post as described in the Dürr patent because the molded piece is no longer connected to the implant when vertical forces are applied in the axial direction to the implant post via the superstructure. The claims have been amended to clearly recite this arrangement. Claim 1 is illustrative. It now recites, in lines 7-11, "...a temporary attachment for forming jaw tissue above the implant head, the temporary attachment being fastened with the screw to the implant body after the implant body has been inserted into a jawbone and before the superstructure is attached, positioned in an area where the superstructure will be located and removed before the superstructure is attached to the implant body..."

Further, an essential feature of the independent claims is the circumferential enlargement of the molded piece. For example, claim 1 recites, in lines 15-22, "...a molded piece ... having a circumference that is in direct contact with the jaw tissue, the screw passing through the head part, the molded piece and the base part and engaging the threaded bore to generate axial pressure that enlarges the circumference, whereby the circumference is kept in close contact with the jaw tissue." This circumferential enlargement of the molded piece permits an improved adaptation of the soft tissue above the implant before the superstructure is attached to the implant. Such feature is not disclosed or suggested by the Dürr patent.

In particular, the elastic intermediate element 18 disclosed in Dürr is made of a rigid plastic, such as polyoxymethylene or the like (see Dürr, column 5, lines 40-46).

Such a material is suited for providing a cushioning and damping effect for vertical forces in axial direction which are applied to the implant via the denture 28, however, it would not show a significant circumferential enlargement produced by forces applied in axial direction as recited.

Further, in Dürr, additional measures are taken to keep the radial deformation at a minimum. These measures consist of a reinforcement of the elastic intermediate element 18 by a rigid, hard intermediate core element 18a which may be made of metal such as titanium. In this way the intermediate element is sub-divided into two components: a hard intermediate element core 18a and a flexible elastic intermediate sleeve element 18b where the hard core 18a additionally prevents a circumferential enlargement or expansion by forces applied in axial direction (See, Dürr, column 6, lines 35-55). This effect is not changed when a central region 34 of the hard core is arranged asymmetrically with respect to the longitudinal axis of the intermediate element 18 as mentioned at Dürr column 7, lines 17-23.

The radial or transverse elasticity characteristics that can be obtained by such arrangement cannot comprise a significant peripheral enlargement or expansion of the elastic sleeve 18b due to the effect of the hard core 18a and its central region 34. This is further confirmed by the fact that the part of the elastic sleeve which is exposed to the gingival tissue has only a small width in the axial direction and the collar 32 of the hard core reaches close to the periphery of that small part (See Dürr column 6, lines 56-63).

Consequently, the Dürr patent does not anticipate the invention nor does it provide any teaching which would lead the expert in the field of dental implants to a solution according to the invention.

Claims 2-8, 11 and 14-17 are dependent, either directly or indirectly, on claim 1 and incorporate the limitations thereof. Consequently, they patentably distinguish over the cited Dürr patent in the same manner as claim 1.

Claim 18 has been amended in a manner similar to claim 1. It recites, in lines 6-19, "... a temporary attachment for forming jaw tissue above the implant head after the implant body has been inserted into a jawbone and before the superstructure is attached, positioned in an area where the superstructure will be located and removed before the superstructure is attached to the implant body, ... having a circumference

that is in direct contact with the jaw tissue, the screw passing through the head part and the molded piece and engaging the threaded bore to generate axial pressure that compresses the molded piece and enlarges the circumference when the screw is tightened, whereby the circumference is kept in close contact with the jaw tissue.” Thus, claim 18 distinguishes over the cited Dürr patent in the same manner as claim 1, discussed above.

Claims 19 and 21 are dependent, either directly or indirectly, on claim 18 and incorporate the limitations thereof. Consequently, they patentably distinguish over the cited Dürr patent in the same manner as claim 18.

Claims 9, 12, 13, 20, 22 and 23 have been rejected under 35 U.S.C. §103(a) as obvious over the Dürr patent in view of U.S. Patent No. 4,552,532 (Mozsary, previously cited). The implant system disclosed in the Mozsary patent deals with means for cushioning forces applied to a crown mounted to the implant. The cushioning means is a resilient member consisting of two elements. A first element 50 has a cylindrical shape with internal and external threads which engages an implant root 12 and post 40. A second element 52 has the shape of a plate that is separated from the gingival tissue by spacer means 60 which are provided for attenuating relative movement between the crown and the root of the implant. The means 60 has a spacer 62 made of metal, for example, the same metal of which the implant root is made, and has a portion 66 which is interposed between the second element 52 of the resilient member 48 and the implant root 12 (See Mozsary column 4, lines 24, 40 and 41).

The spacer 62 physically separates the second element 52 of the resilient member 48 from the gingiva 28 so that no circumferential expansion of the second element 52 can take place when axial forces applied to the crown are effective at the resilient member 48. This situation is not changed when the resilient member 48 or the second element 52 is made of a soft plastic such as silicon rubber. Thus, this reference does not disclose any structure which could be interpreted as the temporary attachment according to the invention. Consequently, its combination with the Dürr patent cannot suggest the claimed invention. In particular, independent claim 1 recites, in lines 15-17, “...a molded piece ... having a circumference that is in direct contact with the jaw tissue...” Independent claim 18 contains equivalent language in lines 10-12. It is clear

that the Mozsary patent does not disclose an elastic section that is in direct contact with the jaw tissue. Since claims 9, 12 and 13 are dependent on claim 1 and incorporate the limitations thereof and claims 20, 22 and 23 are dependent on claim 18 and incorporate its limitations, claims 9, 12, 13, 20 22 and 23 patentably distinguish over the cited combination of references.

In light of the forgoing amendments and remarks, this application is now believed in condition for allowance and a notice of allowance is earnestly solicited. If the examiner has any further questions regarding this amendment, he is invited to call applicants' attorney at the number listed below. The examiner is hereby authorized to charge any fees or direct any payment under 37 C.F.R. §§1.17, 1.16 to Deposit Account number 50-3969.

Respectfully submitted

/paul e. kudirka/
Paul E. Kudirka, Esq. Reg. No. 26,931
LAW OFFICES OF PAUL E. KUDIRKA
Customer Number 64967
Tel: (617) 357-0010 Fax: (617) 357-0035

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